

DEPARTMENT OF TRANSPORTATION**DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch

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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 1.28**WELDING INSPECTION REPORT****Resident Engineer:**Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-021610**Date Inspected:** 07-Mar-2011**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1730**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site

CWI Name:	William Sherwood and John Pagliaro			CWI Present:	Yes	No	
Inspected CWI report:	Yes	No	N/A	Rod Oven in Use:	Yes	No	N/A
Electrode to specification:	Yes	No	N/A	Weld Procedures Followed:	Yes	No	N/A
Qualified Welders:	Yes	No	N/A	Verified Joint Fit-up:	Yes	No	N/A
Approved Drawings:	Yes	No	N/A	Approved WPS:	Yes	No	N/A
				Delayed / Cancelled:	Yes	No	N/A
Bridge No:	34-0006			Component:	Orthotropic Box Girder		

Summary of Items Observed:

Caltrans Office of Structural Material (OSM) Quality Assurance Inspector (QAI) Joselito Lizardo was present at the Self Anchored Suspension (SAS) job site as requested to perform observations on the welding of components for the San Francisco Oakland Bay Bridge (SFOBB) Project.

At OBG 9W/10W side plate 'E2' (0mm to 2640mm) inside, QA randomly observed ABF/JV qualified welder Sungtao, Huang ID # 3794 continuing to perform CJP groove (splice) welding fill pass on the splice butt. The welder was observed perform automatic welding in the 3G (vertical) position utilizing a dual shield Flux Cored Arc Welding (FCAW-G) with E71T-1M, 1/16" diameter wire electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-3042B-1. The joint being welded has a single V-groove butt joint with backing bar. The splice joint was preheated and maintained to greater than 150 degrees Fahrenheit using Miller Proheat 35 Induction Heating System heater blankets located at the opposite side of the plate prior/during welding. During welding, ABF Quality Control (QC) Steve Jensen was noted monitoring the welding parameters of the welder. At the end of the shift, fill pass welding was completed and the welder is ready to weld the cover pass tomorrow.

At OBG 9E/10E top deck plate 'A4' & 'A5' outside, QA randomly observed ABF/JV qualified welder Wai Kitlai continuing to perform CJP repair welding. The welder was noted welding in 1G (flat) position utilizing SMAW with 5/32" diameter E7018H4R electrode implementing new Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-1003 Repair. The new repair procedure includes putting in place a copper backing alongside the typical steel backing bar when the repair excavation is expected to occur at the edge of the steel backing. The first, second and third time welding repairs were excavated to a boat shape profile and were tested

WELDING INSPECTION REPORT

(Continued Page 2 of 3)

with Magnetic Particle Testing (MT) prior welding. The third time welding repair located at A4 Y=4820 has Repair Welding Request (RWR) number of 2011-02-004. During welding, ABF QC John Pagliero was noted monitoring the welder and his welding parameters. QA noted parameter during welding was 165 amperes which appears in compliance to the WPS. The locations of the repairs were noted below;

Location	Y-dimension	Length	Width	Depth	Remarks
1. A4	2000mm	90mm	15mm	12mm	Completed (R2)
2. A4	4820mm	100mm	15mm	13mm	Completed (R3)
3. A5	5180mm	100mm	20mm	22mm	Completed (R1)

At the request of Quality Control Field Supervisor, Bonifacio Daquinag, QA has randomly verified the QC VT/MT of the Complete Joint Penetration (CJP) welding of one bottom plate, one edge plate and eight lifting lug deck access holes butt joint. The QA verification was performed to verify that the welding and the VT/MT inspection performed by the QC inspector meet the requirements of the contract documents. At the conclusion of the QA verification it appeared that the welds and the QC inspection complied with the contract documents.

1. 7W/8W bottom plate 'D' inside – QA MT verified
2. 9W/10W edge plate 'F' inside – QA MT verified
3. 3W-PP20-W4-#1, #3 & #4 lifting lug access holes outside – QA MT verified
4. 3W-PP22-W4-#2, #3 & #4 lifting lug access holes outside – QA MT verified
5. 5W-PP35-W3-#2 & #4 lifting lug access holes inside – QA VT verified

At OBG 10E/11E edge plate 'B' outside, QA randomly observed ABF/JV qualified welder Fred Kaddu perform root pass welding on the Complete Joint Penetration (CJP) splice butt joint. The welder was observed manually welding in the 3G (vertical) position utilizing a Shielded Metal Arc Welding (SMAW) with 1/8" diameter E7018H4R electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-1040B. The joint being welded has a single V-groove butt joint with steel backing bar. ABF Quality Control (QC) William Sherwood was noted monitoring the welding parameters of the welder. QA randomly monitored the welding parameter with reading of 135 amperes which appears in conformance to the contract requirements. Prior welding, QA and ABF QC performed a joint fit up inspection/verification and measured an offset of 1.5mm and a root gap of 9.0mm which also appear in compliance to the contract requirements. At the end of the shift, SMAW root pass welding was still continuing and should remain tomorrow.

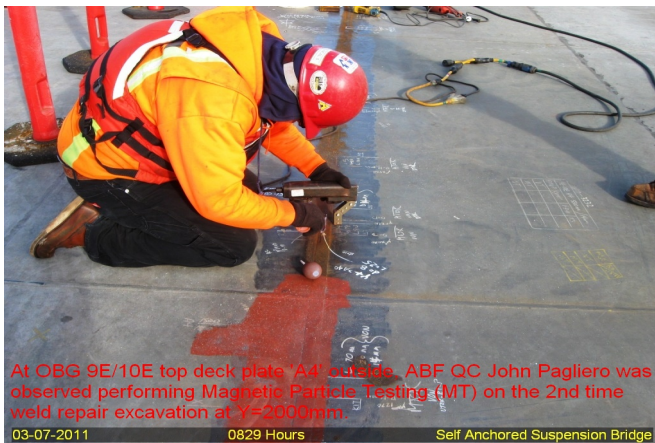
WELDING INSPECTION REPORT

(Continued Page 3 of 3)

At OBG 9E/10E top deck plate 'A4' outside, ABF welder Wai Kitai was observed performing 1G Shielded Metal Arc Welding (SMAW) welding and time repair on welded splice butt joint.



At OBG 5W-PP35-W3-#2 lifting lug access hole to top deck plate inside, a surface profile of the flush ground weld cover reinforcement of the welded butt joint was noted.



At OBG 9E/10E top deck plate 'A4' outside, ABF QC John Pagliero was observed performing Magnetic Particle Testing (MT) on the 2nd time weld repair excavation at Y=2000mm.



At OBG 10E/11E edge plate 'B' outside, ABF QC William Sharwood was noted performing fit up inspection on the splice butt joint.

Summary of Conversations:

No significant conversation occurred today.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact SMR Nina Choy 510-385-5910, who represents the Office of Structural Materials for your project.

Inspected By: Lizardo, Joselito

Quality Assurance Inspector

Reviewed By: Levell, Bill

QA Reviewer